

The multiple access communication system according to the invention comprises at least one primary station (2) and a plurality of secondary stations (32, 34, 36). The primary station (2) and the secondary stations (32, 34, 36) are interconnected via a network, e.g. a coaxial cable network or a hybrid fiber/coax network. The secondary stations (32, 34, 36) can transmit return signals in a return signal frequency band to the primary station (2). However, the secondary stations (32, 34, 36) are arranged for transmitting the return signals in only a part of the return signal frequency band containing relatively little noise, e.g. the upper part of the return signal frequency band. The network comprises means (40) for mapping the return signals of the secondary stations (32, 34, 36) onto the full return signal frequency band, e.g. by means of a frequency converter (48, 50). In this way, the communication system is much less sensitive to noise, while still the same number of secondary stations (32, 34, 36) can be handled by the communication system.

Fig. 1